

REMARKS

Applicants and Applicants' attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on April 26, 2007. Reconsideration and allowance for the above-identified application are now respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-23 are pending, wherein claims 1, 11 and 23 have been amended in accordance with what was tentatively agreed to as distinguishing over the applied art.

The Office Action rejects claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over Lewis et al. (US 4,950,271) in view of Fletcher (US 3,869,932). In making this rejection, the Office Action acknowledges that Lewis et al. fails to teach or suggest a pulley wheel having pulley plates with a variable distance therebetween and biasing means for biasing at least one of the pulley plates toward the other pulley plate. For this reason, the Office Action combined Fletcher with Lewis et al. Fletcher is not in the medical device art but rather in the industrial pulley art. It is therefore presumptively nonanalogous art since it would not generally be understood as providing any functionality in the medical device art. The pulley of Fletcher is certainly not of a size or construction that would render it suitable for use in accepting therein a looped suture strand and being able to spread open to better accommodate knots or other size changes in the looped suture. The Fletcher pulley would have to be radically downsized and redesigned to be of any use in providing the function required in the present invention.

More fundamentally, simply replacing the guide wheel of the Lewis graft tensioning device with the Fletcher pulley would not provide any benefit, and certainly not the functionality recited in the claims of the present application. Thus, one of skill in the art would not have combined Fletcher with Lewis to obtain the present invention. Motivation to combine these references is clearly lacking, and even if combined their combined teachings would not yield the present invention as currently claimed.

As schematically illustrated in Figures 1, 3, 5, 6, 8 and 9, the inventive pulley wheel, as properly oriented relative to an adjustable tension applicator of a graft tensioning device, is able to readily accept within the pulley space a looped suture that is attached to a soft tissue graft during joint repair surgery. The pulley is able to rotate to thereby equalize the tensile load on either side of the looped suture. In addition, the pulley plates are biased toward each other but can be temporarily spread apart to accommodate differences in cross-section width of the looped suture (e.g., as a result of thicker or multi-stranded sutures, knots in the suture, etc.). The ability

of the suture wheel to spread open to accommodate differently sized sutures helps to equalize tension on both sides of the looped suture as it prevents one side of the suture from binding up with the pulley wheel and interfering with its ability to equalize tension.

As best illustrated in Figures 2 and 2A, the claimed pulley wheel is attached to the adjustable tension applicator of the graft tensioning device. In this way, adjustable tensile forces applied by the adjustable tension applicator can be transmitted through the pulley wheel to the looped suture. Figure 2 shows the tension applicator in a low tension configuration, with the tensioning spring in a less compressed state. Figure 2B shows the tension applicator in a higher tension configuration, with the tensioning spring in a more compressed state. Figure 2B also schematically shows the pulley wheel 26 in a more retracted position that is further away from the tissue graft. Thus, the pulley wheel is itself able to move forward and reward in response to movement of the adjustable tension applicator.

Lewis fails to teach or suggest a graft tensioning device having the combination of features recited in the claims, including a rotatable pulley wheel defining a variable pulley space, attaching means for rotatably attaching the pulley wheel to an adjustable tension applicator, and biasing means for biasing at least one of the pulley plates toward the other pulley plate. Thus, Lewis fails to disclose at least three of the features recited in claim 1. As discussed above, there would be no reason for one of skill in the art to incorporate the pulley of Fletcher within the graft tension device of Lewis. The wheel in Lewis merely guides a single stranded suture but is not positioned or designed to receive a looped suture. In addition, the tension applicator is not attached to the wheel in Lewis such that looping a suture around the wheel in Lewis would result in a configuration that would prevent the looped suture from also being attached to the tension applicator via clamp 64. *See* col. 6, lines 4-7. Thus, looping a suture around the wheel in Lewis would prevent the tension applying device from being able to apply and vary graft tension, as the wheel is positioned on a stationary portion of the Lewis device. For the Lewis device to work properly the suture must not be looped around the wheel. For this reason, there would be no point in combining Fletcher and Lewis as a single stranded suture typically has no knots or other features that would cause varying cross-sectional width along its length. Applicants therefore submit that claims 1-23 are patentable over Lewis and Fletcher for this reason alone.

Moreover, neither Lewis nor Fletcher disclose or suggest "rotatably attaching [a] pulley wheel to an adjustable tension applicator" and "in an orientation so that an outer periphery of [the] pulley wheel remains unobstructed". As illustrated in Figures 2 and 2A of the present


application, the inventive pulley wheel is attached to the adjustable tension applicator portion of the graft tensioning device so as to transmit tensile forces from the tension applicator to the looped suture. In contrast, the wheel in Lewis is attached to a stationary portion of the tensioning device, not the tension applicator 62 of Lewis. Because Fletcher has nothing to do with graft tensioning devices, it fails to cure this deficiency in Lewis. For this additional reason, Applicants submit that claims 1-23 are patentable over the art of record.

Finally, the wheel in Lewis does not have an outer periphery that remains unobstructed by the graft tensioning device. As a result, the Lewis wheel does not provide ready access for a looped suture. Instead, the "guide pulleys 57" are surrounded on both sides and on top by the "brackets 56" through which an axle extends, thereby obstructing access to much of the pulley space within "guide pulleys 57". In contrast, Figure 1 illustrates a configuration of the claimed pulley wheel in which the pulley wheel is unobstructed. Consistent with the foregoing, claims 11 and 23 define a "post attached at one end to an adjustable tension applicator". The post shown in Figure 2 of Lewis is attached at both ends, as best seen in the middle applicator portion. Attaching a post at both ends further restricts easy placement of a looped suture around a pulley wheel. For any of the foregoing additional reasons, Applicants submit that claims 1-23 are patentable over the art of record.

In the event the Examiner finds any remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or which may be overcome by examiner amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 27th day of April 2007.

Respectfully submitted,



JOHN M. GYNN
Registration No. 36,153
WORKMAN NYDEGGER
Attorney for Applicants
Customer No. 022913